

1 **CLAIMS**

2 **1.** A system comprising:

3 an event prediction module operably associated with multiple media  
4 content samples that are to be rendered for a user, the module being configured to:  
5 receive event notification requests from an application pertaining to events  
6 associated with the media content samples; and  
7 predict rendition times associated with the individual events.

8  
9 **2.** The system of claim 1, wherein the event prediction module  
10 comprises an event list that stores information associated with events and  
11 associated event rendition times.

12  
13 **3.** The system of claim 1, wherein the event prediction module is  
14 configured to:  
15 generate event notifications in accordance with their predicted rendition  
16 times; and  
17 send the notifications to an application.

18  
19 **4.** The system of claim 1, wherein the event prediction module predicts  
20 the rendition times by taking into account one or more presentation rates that  
21 define a rate at which individual media content samples are to be rendered.

22  
23 **5.** The system of claim 1, wherein the event prediction module predicts  
24 the rendition times by performing linear interpolation.  
25

1       **6.**    A system comprising:  
2           multiple filters defining a filter graph that is configured to process multiple  
3 media content samples, the filter graph comprising one or more render filters for  
4 rendering media content samples; and  
5           an event prediction module operably associated with the filter graph, the  
6 module being configured to:  
7               receive event notification requests from an application pertaining to  
8 events associated with the media content samples; and  
9               predict rendition times associated with the individual events.

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11       **7.**    The system of claim 6, wherein the event prediction module is  
12 independent of any of the render filters.

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14       **8.**    The system of claim 6, wherein the event prediction module is  
15 located upstream of any of the render filters.

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17       **9.**    The system of claim 6, wherein the event prediction module  
18 comprises part of a filter upstream of any of the render filters.

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20       **10.**   The system of claim 6, wherein the event prediction module  
21 comprises part of the application.

1       **11.**   The system of claim 6, wherein the event prediction module is  
2 configured to generate event notifications in accordance with the predicted  
3 rendition times, and send the notifications to an application, the event prediction  
4 module being located so that the notifications are not back propagated through  
5 multiple filters of the filter graph.

6  
7       **12.**   A system comprising:  
8 multiple filters defining a filter graph that is configured to process multiple  
9 media content samples;

10       the filter graph comprising:

11           one or more render filters for rendering media content samples; and  
12           a source filter for receiving media content from a media source;  
13           the source filter comprising an event prediction module configured

14       to:

15           receive event notification requests from an application  
16           pertaining to events associated with the media content samples; and  
17           predict rendition times associated with the individual events.

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19       **13.**   The system of claim 12, wherein the event prediction module  
20 comprises an event list that stores events and their associated rendition times.

1       **14.**   The system of claim 12, wherein the event prediction module is  
2 configured to:

3       generate event notifications in accordance with the predicted rendition  
4 times; and

5       send the notifications to the application.

6  
7       **15.**   The system of claim 12, wherein the event prediction module  
8 predicts the rendition times by taking into account one or more presentation rates  
9 that define a rate at which individual data samples are to be rendered.

10  
11       **16.**   The system of claim 12, wherein the event prediction module  
12 predicts the rendition times by performing linear interpolation.

13  
14       **17.**   A method comprising:

15       receiving an event notification request from an application, the event  
16 notification request requesting a notification pertaining to events associated with  
17 one or more media content samples that are to be rendered; and

18       predicting rendition times associated with the individual events.

19  
20       **18.**   The method of claim 17 further comprising storing information  
21 associated with events and associated event rendition times in an event list.

1           **19.**   The method of claim 17 further comprising sending at least one  
2 event notification to the application responsive to an associated event having been  
3 predicted to occur at a particular rendition time.

4  
5           **20.**   The method of claim 17, wherein the act of predicting is  
6 accomplished, at least in part, by taking into account one or more presentation  
7 rates at which individual content samples are to be rendered.

8  
9           **21.**   The method of claim 17, wherein the act of predicting is  
10 accomplished, at least in part, by performing at least one linear interpolation  
11 operation.

12  
13           **22.**   One or more computer-readable media having computer-readable  
14 instructions thereon which, when executed by one or more processors, cause the  
15 one or more processors to:

16           receive an event notification request from an application, the event  
17 notification request requesting a notification pertaining to events associated with  
18 one or more media content samples that are to be rendered;

19           predict rendition times associated with the individual events; and

20           send at least one event notification to the application responsive to an  
21 associated event having been predicted to occur at a particular rendition time.

1           **23.**    The computer-readable media of claim 22, wherein the computer-  
2 readable instructions cause the one or more processors to predict rendition times  
3 by taking into account one or more presentation rates at which individual content  
4 samples are to be rendered.

5  
6           **24.**    The computer-readable media of claim 22, wherein the computer-  
7 readable instructions cause the one or more processors to predict rendition times  
8 by performing at least one linear interpolation operation.

9  
10          **25.**    A method comprising:  
11           providing multiple filters defining a filter graph that is configured to  
12 process multiple media content samples, the filter graph comprising one or more  
13 render filters for rendering media content samples;  
14           receiving event notification requests from an application pertaining to  
15 events associated with the media content samples; and  
16           predicting rendition times associated with the individual events.

17  
18          **26.**    The method of claim 25, wherein the act of predicting is performed  
19 independent of any information provided by said one or more render filters.

20  
21          **27.**    The method of claim 25, wherein event notification requests are not  
22 provided to the one or more render filters.

1           **28.**   The method of claim 25, wherein the act of receiving is performed  
2 by a filter upstream of the one or more render filters.

3  
4           **29.**   The method of claim 25, wherein the act of receiving is  
5 accomplished upstream of the one or more render filters.

6  
7           **30.**   One or more computer-readable media having computer-readable  
8 instructions thereon which, when executed by one or more processors, cause the  
9 one or more processors to:

10           provide multiple filters defining a filter graph that is configured to process  
11 multiple media content samples, the filter graph comprising one or more render  
12 filters for rendering media content samples;

13           receive event notification requests from an application pertaining to events  
14 associated with the media content samples; and

15           predict rendition times associated with the individual events.

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17           **31.**   The computer-readable media of claim 30, wherein the computer-  
18 readable instructions cause the one or more processors to predict rendition times  
19 independent of any information provided by said one or more render filters.

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21           **32.**   A method comprising:

22           providing multiple filters defining a filter graph that is configured to  
23 process multiple media content samples, the filter graph comprising one or more  
24 render filters for rendering media content samples;

1 receiving event notification requests from an application pertaining to  
2 events associated with the media content samples;  
3 predicting rendition times associated with individual events; and  
4 sending event notifications to the application responsive to an associated  
5 event having been predicted to occur at a particular rendition time.  
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7 **33.** The method of claim 32, wherein said act of predicting is performed  
8 independent of any information provided by said one or more render filters.  
9

10 **34.** The method of claim 33, wherein said act of sending is performed  
11 independent of an associated event actually occurring.  
12

13 **35.** The method of claim 32, wherein said event notification requests are  
14 not provided to the one or more render filters.  
15

16 **36.** The method of claim 35, wherein said act of sending does not  
17 originate at any of the render filters.  
18

19 **37.** The method of claim 32, wherein said act of receiving is performed  
20 by a filter upstream of the one or more render filters.  
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22 **38.** The method of claim 37, wherein said act of sending is performed  
23 by said upstream filter.  
24  
25



1           **39.**    The method of claim 32, wherein said receiving is accomplished  
2 upstream of the one or more render filters.

3  
4           **40.**    The method of claim 39, wherein said act of sending originates and  
5 is performed upstream of said one or more render filters.

6  
7           **41.**    A method comprising:  
8           providing multiple filters defining a filter graph that is configured to  
9 process multiple media content samples, the filter graph comprising one or more  
10 render filters for rendering media content samples and a source filter for receiving  
11 media content from a media source, the source filter comprising an event  
12 prediction module;

13           receiving event notification requests from an application pertaining to  
14 events associated with the media content samples;

15           predicting, with the event prediction module, rendition times associated  
16 with individual events; and

17           sending event notifications to the application responsive to an associated  
18 event having been predicted to occur at a particular rendition time.

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20           **42.**    The method of claim 41, wherein said act of predicting is  
21 accomplished by taking into account one or more presentation rates that define a  
22 rate at which individual samples are rendered.